Defense Information Infrastructure (DII)

Common Operating Environment (COE)

Installation Procedures (IP) for
Kernel Printer Driver Segment Version 1.0.0.1 (Solaris 2.5.1)

Document Version 1.0

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1. Scope

1.1   Identification

This Installation Procedures (IP) Manual describes how to install the Defense Information Infrastructure (DII) Common Operating Environment (COE) Kernel Printer Driver Version 1.0.0.1 (Solaris 2.5.1). The Kernel Printer Driver Version 1.0.0.1 (Solaris 2.5.1), a Government off-the-shelf (GOTS) product, is intended to be used on Sun hardware running the Solaris 2.5.1 Operating System and either the DII COE Version 3.2.0.0 Kernel or the DII COE Version 3.0.0.3 Kernel Patch 5 (or a subsequent roll-up patch incorporating DII COE Version 3.0.0.3 Kernel Patch 5 printer functionality).

NOTE: Throughout this document, `Courier` font is used to indicate entries to be typed at the keyboard, UNIX commands, file and directory names, and screen text. For example:

> The file is located in the `DII_DEV` directory.

1.2   System Overview

The DII COE Kernel Printer Driver segment is a data segment that installs six printer drivers for the DII COE Printer Service:

- PreConfigPS: a preconfigured postscript printer driver, intended for a PostScript printer that uses software that does not automatically filter print jobs

- PreConfigPS_r: a preconfigured reverse postscript printer driver, intended for a PostScript printer that does not automatically filter print jobs and that generates output face-up (causing the security banner to be generated last so that it ends up on top of the printed output)

- PreConfigRaw: a preconfigured raw data printer driver, intended for printing via "smart" lp software (i.e., software that can detect the format of the data being printed and filter it appropriately for the printer)

- PreConfigRaw_r: a preconfigured reverse raw data printer driver, intended for a printer that uses "smart" lp and that generates output face-up (causing the security banner to be generated last so that it ends up on top of the printed output)

- ascii: an ascii printer driver, intended for a printer that only accepts ascii formatted data

- postscript: a Solaris postscript printer driver that fixes a problem with printing preformatted PostScript data.

The four preconfigured printer drivers provide the same basic functionality, but each is tailored to a particular printer configuration. They are intended to be used when no other COE Print Driver is available for a particular printer; thus a printer that has already been set up as a non-COE printer can later be used within the DII COE. If another COE Print Driver is available, it should be used instead of the preconfigured printer driver. The preconfigured printer driver works by "piggybacking" on top of the existing lp printer, using the same configuration and interface files, but it does not provide the same level of integration and seamless operation that a native COE Print Driver can provide.

For DII COE Printer Driver Version 1.0.0.1 related issues, contact the DII COE Hotline at the OSF support Center (OSC) by one of the following methods:

- Telephone (703) 735-8681

- Facsimile (703) 735-3080

- Web site: http://spider.osfl.disa.mil/dii/hotline/index.html.

2. Referenced Documents

The following documents are referenced in this installation guide:

- DII.3200.Sol251.Kernel.IG-1, *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.2.0.0 Kernel Installation Guide (Solaris 2.5.1),* July 25, 1997

- DII.3003.Sol251.IG-2, *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.0.0.3 Kernel Installation Guide (Solaris 2.5.1),* April 7, 1997

- DII.3003.Sol251.KernelP5.IG-1, *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.0.0.3 Kernel Patch 5 Installation Guide (Solaris 2.5.1),* August 8, 1997

- DII.3200.Sol.251.AG-1, *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.2.0.0 System Administrator's Guide (Solaris 2.5.1),* July 25, 1997

- DII.31.HPSOL.AG-1, *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.1 System Administrator's Guide (HP-UX 10.20 and Solaris 3.5.1),* April 14, 1997

- DII.Sol251.Printer.1001.SVD-1*, Defense Information Infrastructure (DII) Common Operating Environment (COE) Software Version Description (SVD) for Kernel Printer Driver Segment Version 1.0.0.1 (Solaris 2.5.1)*, October 16, 1997

- DII.HPSol.Printer.1000.STP-1*, Defense Information Infrastructure (DII) Common Operating Environment (COE) Software Test Plan (STP) for Kernel Printer Driver Segment Version 1.0.0.0*, October 10, 1997.

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3. System Environment

This section describes the system requirements and the system and site preparation.

3.1   System Requirements

This section describes hardware, operating system, and kernel requirements for the Printer Driver Version 1.0.0.1.

3.1.1   Hardware Requirements

The following hardware component is required for the DII COE Kernel Printer Driver segment.

*   **Solaris computer**. A SPARC 5/10/20, SPARC 1000/1000e, or SPARC 2000/2000e.

3.1.2   Operating System Requirements

The DII COE Printer Driver segment requires the Solaris 2.5.1 Operating System.

3.1.3   Kernel Requirements

The DII COE Printer Driver segment requires either the DII COE 3.2.0.0 Kernel tape or the DII COE Version 3.0.0.3 Kernel Patch 5 (or a subsequent roll-up patch incorporating DII COE Version 3.0.0.3 Kernel Patch 5 printer functionality). The DII COE Kernel is a suite of applications layered on top of the Solaris 2.5.1 Operating System.

3.2   System and Site Preparations

This section describes the system configuration, operating system preparation, and the tape/disk preparation.

3.2.1   System Configuration

The Kernel Printer Driver Version 1.0.0.1 (Solaris 2.5.1), a GOTS product, is intended to be used on Sun hardware running the Solaris 2.5.1 Operating System and either the DII COE Version 3.2.0.0 Kernel or the DII COE Version 3.0.0.3 Kernel Patch 5 (or a subsequent roll-up patch incorporating DII COE Version 3.0.0.3 Kernel Patch 5 printer functionality).

3.2.2   Operating System Preparation

Information needed to prepare the operating system is described in the following documents:

*   *DII COE Version 3.2.0.0 Kernel Installation Guide (Solaris 2.5.1)*

*   *DII COE Version 3.0.0.3 Kernel Installation Guide (Solaris 2.5.1)*

- *DII COE Version 3.0.0.3 Kernel Patch 5 Installation Guide (Solaris 2.5.1).*

3.2.3   Tape/Disk Preparation

Ensure the disk has enough memory to install the Kernel Printer Driver Version 1.0.0.1, which is 74KB.

4. Installation Instructions

This section describes the media booting procedures, the installation procedures, installation of upgrades, installation verification, initializing the software, list of changes and enhancements, and important considerations.

4.1   Media Booting Procedures

See Section 4.2, *Installation Procedures,* for information on media devices.

4.2   Installation Procedures

The DII COE Kernel Printer Driver Version 1.0.0.1 (Solaris 2.5.1) tape is a segment and must be installed after the Solaris 2.5.1 Operating System and either the DII COE Version 3.2.0.0 Kernel or the DII COE Version 3.0.0.3 Kernel Patch 5 (or a subsequent roll-up patch incorporating DII COE Version 3.0.0.3 Kernel Patch 5 printer functionality). Refer to the appropriate 3.2.0.0 or 3.0.0.3 Version of the *DII COE Kernel Installation Guide (Solaris 2.5.1)* for instructions on installing the Solaris 2.5.1 Operating System and the DII COE Kernel.

Follow the steps below to install the DII COE Kernel Printer Driver Version 1.0.0.1 (Solaris 2.5.1). Refer to the appropriate 3.2.0.0 or 3.0.0.3 Version of the *DII COE System Administrator's Guide (Solaris 2.5.1)* for more information about installing segments.

STEP 1: **Load the segment tape**. Load the segment tape into a tape drive.

STEP 2: **Log in as system administrator**. In the DII COE login screen, type `sysadmin` at the `Name` prompt and press [RETURN].

STEP 3: **Enter the `sysadmin` password**. Type the `sysadmin` password at the `Password` prompt and press [RETURN]. The System Administration software appears.

STEP 4: **Select the `Segment Installer` option**. Select the `Segment Installer` option from the `Software` pull-down menu. The `Installer` window appears (Figure 1).
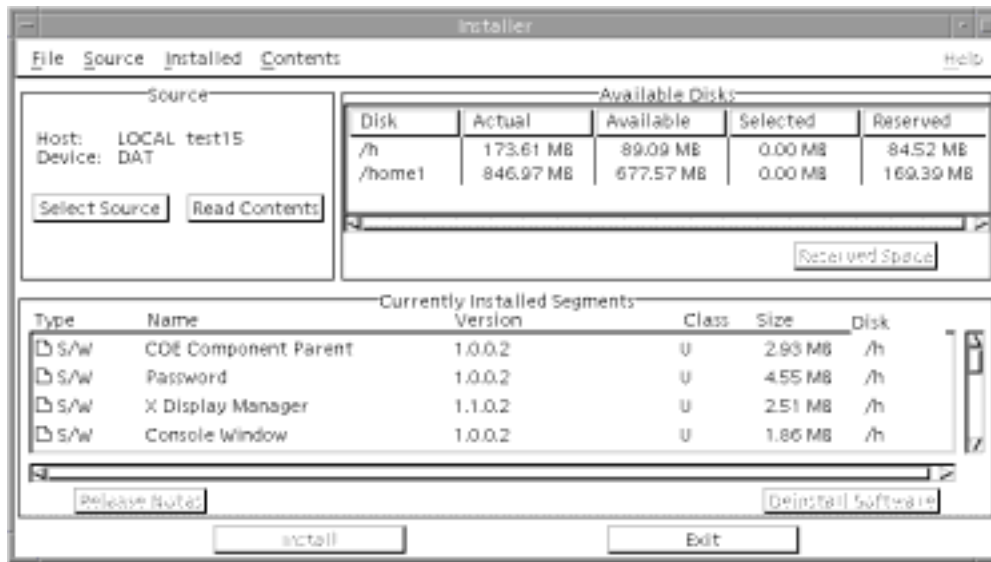
Figure 1. Installer Window

NOTE: Ensure that you can see the whole `Installer` window by clicking on the bottom right edge of the window and dragging the trackball or mouse outward to enlarge the window.

STEP 5: **Check the installation device**. The `Source` panel displays the name of the host machine and the name of the installation device. The device selection defaults to the DAT drive on the local machine. If you want to select the REMOTE option to install from a remote machine, click on the `Select Source` button in the `Source` panel to open the `Select Source` window (Figure 2); then make necessary changes and click the `Ok` button to return to the `Installer` window.
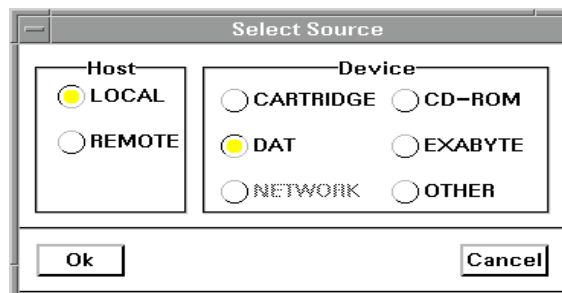
Figure 2. Select Source Window

STEP 6:   **Read the table of contents of the DAT**. Click on the `Read Contents` button in the `Source` panel. The media is scanned, and the `Installer` window adds the `Select Software To Install` panel. This panel lists the Kernel Printer Driver Version 1.0.0.1, which is the patch you want to install. Figure 3 shows a sample `Installer` window with the `Select Software To Install` panel.
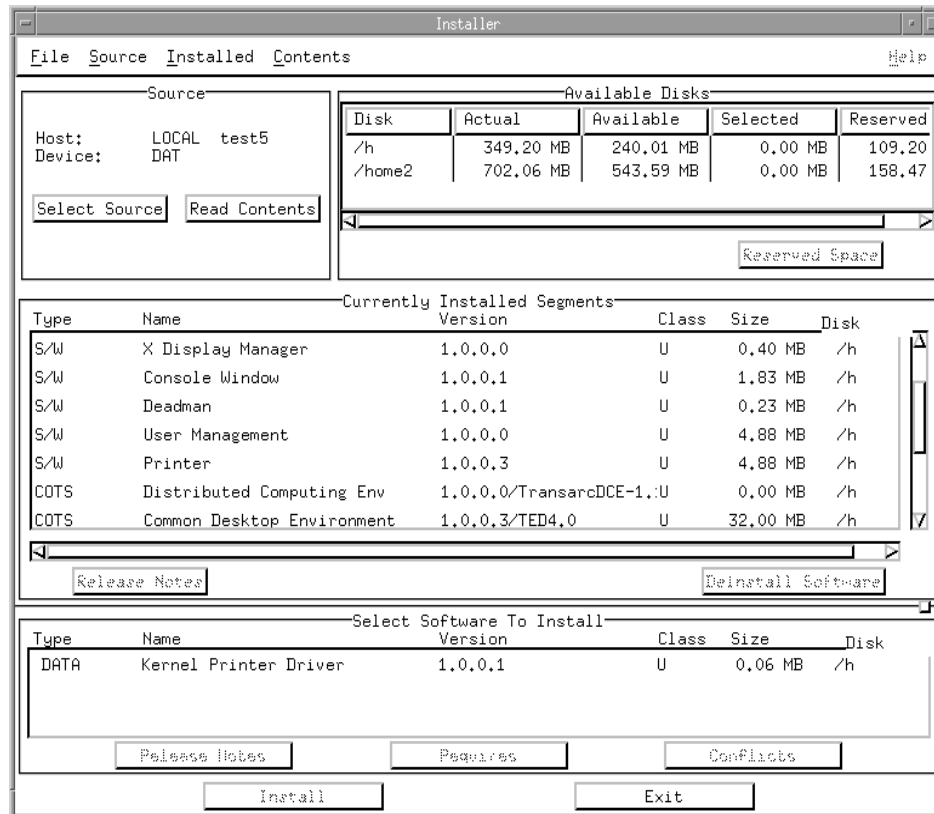
Figure 3. Installer Window with Select Software To Install Panel

STEP 7:   **Select the segment that you want to install**. Click on the Kernel Printer Driver Version 1.0.0.1 in the `Select Software To Install` panel to select it for installation. The `Available Disks` panel displays the mounted disk drives on the system and the remaining available disk space as the segment is selected.

NOTE: If you wish to view Release Notes and Requires information, continue on to Step 8 and Step 9. If not, go to Step 10.

STEP 8:   **View Release Notes for the segment**. Click on the `Release Notes` button in the `Select Software To Install` panel to display release notes for the kernel Printer Driver Version 1.0.0.1. Figure 4 shows a sample `RELEASE NOTES` window.

```
                              RELEASE NOTES

    Name: Kernel Printer Driver              Version: 1.0.0.1
                   Read From Table Of Contents


                             RELEASE NOTES

    ******************************************
    ReleaseNotes for Kernel Printer Drivers
    ******************************************
    The DII COE Kernel Printer Drivers segment is a data segment that installs
    six printer drivers for the DII COE Printer Service:

    PreConfigPS:     a preconfigured postscript printer driver, intended for a
                     PostScript printer that uses software that does not
                     automatically filter print jobs.

    PreConfigPS_r:   a preconfigured reverse postscript printer driver, intended
                     for a PostScript printer that does not automatically filter
                     print jobs and that generates output face-up (causing the
                     security banner to be generated last so that it ends up on
                     top of the printed output).

    PreConfigRaw:    a preconfigured raw data printer driver,  intended for
                     printing via "smart" lp software (i.e., software that can
                     detect the format of the data being printed and filter it
                     appropriately for the printer).

                            OK
```
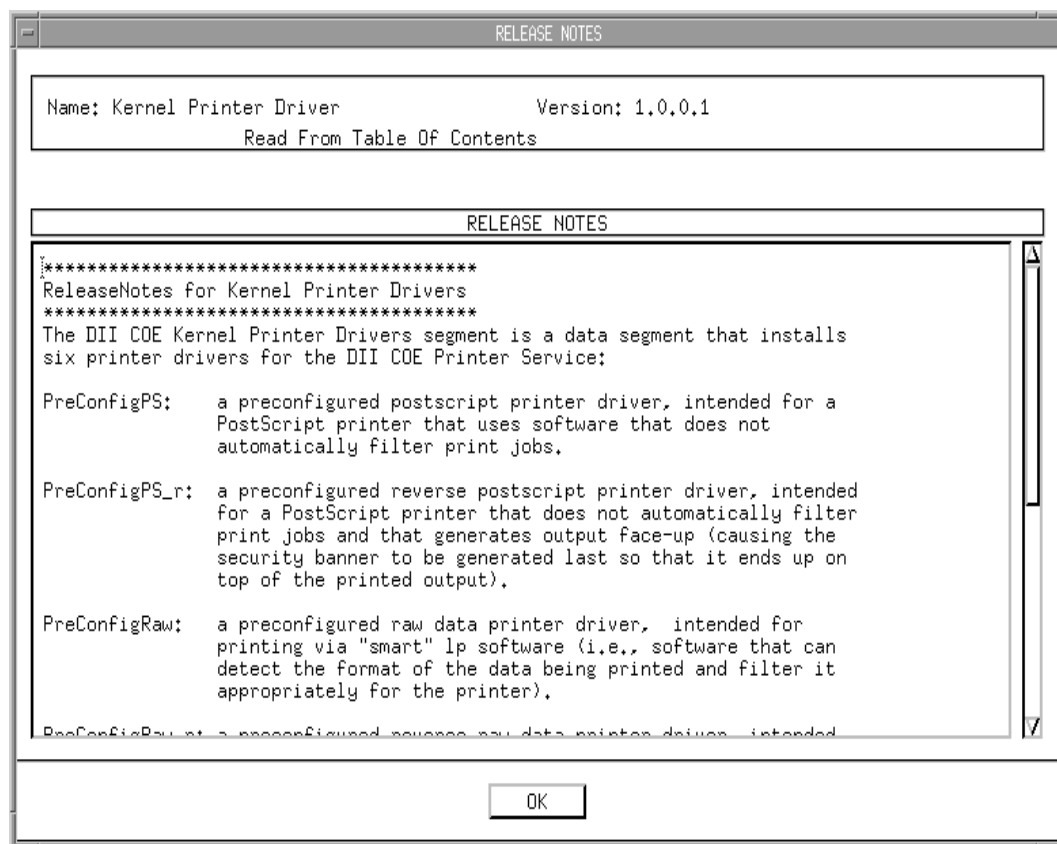
Figure 4. RELEASE NOTES Window

STEP 9: **View segments that need to be installed**. Click on the `Requires` button in the `Select Segment To Install` panel. The `REQUIRED SEGMENTS` window (Figure 5) appears listing the COE Component Parent 1.0.0.2, which needs to be installed before the DII COE Kernel Printer Driver Version 1.0.0.1.
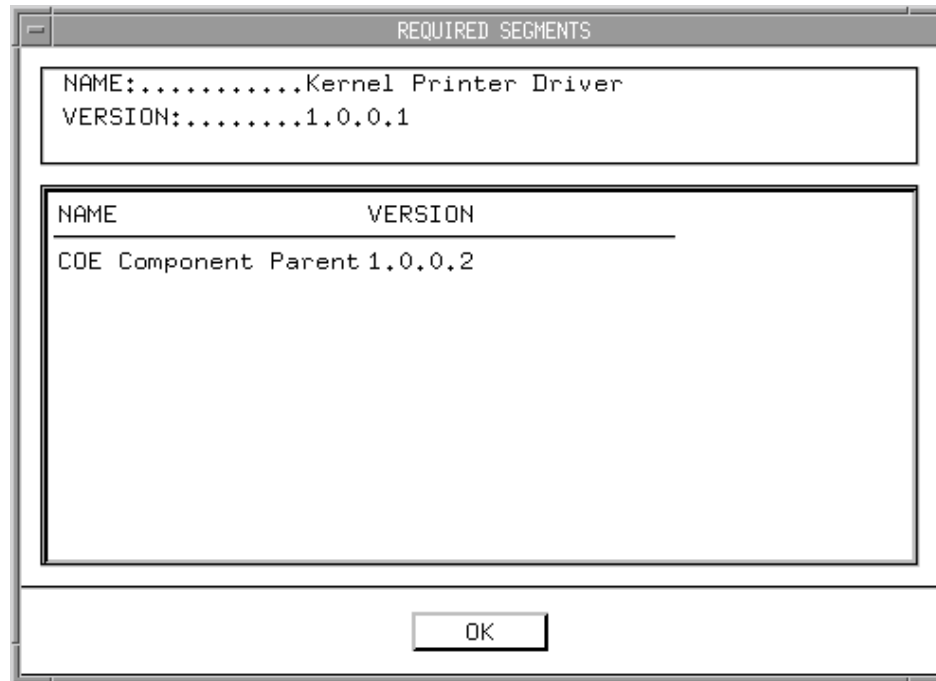
```
╔═══════════════════════════════════════════════════╗
║ ═                 REQUIRED SEGMENTS               ║
╠═══════════════════════════════════════════════════╣
║  ┌─────────────────────────────────────────────┐  ║
║  │ NAME:...........Kernel Printer Driver        │  ║
║  │ VERSION:........1.0.0.1                       │  ║
║  └─────────────────────────────────────────────┘  ║
║  ┌─────────────────────────────────────────────┐  ║
║  │ NAME              VERSION                     │  ║
║  │ ────────────────────────────────────         │  ║
║  │ COE Component Parent 1.0.0.2                  │  ║
║  │                                              │  ║
║  │                                              │  ║
║  │                                              │  ║
║  └─────────────────────────────────────────────┘  ║
║                  ┌──────────┐                      ║
║                  │    OK    │                      ║
║                  └──────────┘                      ║
╚═══════════════════════════════════════════════════╝
```

Figure 5. REQUIRED SEGMENTS Window

NOTE: You do not need to click on the `Conflicts` button in the `Select Segment To Install` panel because this patch segment has no conflicting segments.

STEP 10: **Begin the installation process for the segment**. Click on the `Install` button once you select the Kernel Printer Driver Version 1.0.0.1. The `Installer Status` window appears, which shows the segment you are installing and the size of the segment. This window also shows a `Percent Complete` status bar, which displays the status of the installation.

STEP 11: **Reboot the system.** Once the installation is complete, the RESPOND TO THE QUESTION window appears (Figure 6). Click on the OK button to reboot the system.

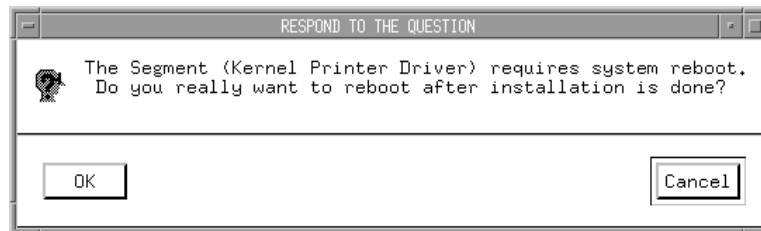Figure 6. RESPOND TO THE QUESTION Window

STEP 12: **Log in as system administrator**. In the DII COE login screen, type sysadmin at the Name prompt and press [RETURN].

STEP 13: **Enter the sysadmin password**. Type the sysadmin password at the Password prompt and press [RETURN]. The System Administration software appears.

STEP 14: **Ensure the segment installed correctly.** Select the Segment Installer option from the Software pull-down menu. The Installer window lists the Kernel Printer Driver Version 1.0.0.1 in the Currently Installed Segments panel.

STEP 15: **Exit the Installer window**. Click on the Exit button to exit the Installer window.

4.3   Installation of Upgrades

Not applicable.

4.4 Installation Verification

Once the Kernel Printer Driver segment is installed, the new drivers will appear available for selection in the `Add Printer` window. To open the `Add Printer` window select the `Printer` cascading menu option from the `SA System` pull-down menu and then select the `Printer Administration` option. The `Printer Administration` window appears. Select the `Add Printer` option from the `Edit` pull-down menu to open the `Add Printer` window. Select the `Printer Model/Type` toggle. The available printer drivers appear in a pull-down list:

```
ASCII Printer
PostScript printer
Preconfigured PostScript Printer
Preconfigured PostScript Printer (reverse)
Preconfigured Printer
Preconfigured Printer (reverse)
```

NOTE: Additional printer drivers may appear in the in the `Add Printer` window, depending on what has already been installed on the system.

4.5 Initializing the Software

To set up a printer using a preconfigured printer driver, perform the following steps. For details on how to create a new COE printer, see the *DII COE Version 3.2.0.0 System Administrator's Guide (Solaris 2.5.1)*.

a. Create an lp printer queue by using either the built-in system facilities (e.g., *sam*) or third-party software (e.g., *NeWSprint*). The printer name *must* begin with an underscore ("_").

b. After creating the lp printer queue, use the `SA System>Printer>Printer Administrator` option to add a new COE printer. The `Printer Name` field entry must be the same as the lp printer name, but *without the leading underscore*. Select the printer `Host Name` and the `Printer Port Name` as usual, then choose one of the following preconfigured printer drivers available for `Printer Model/Type`:

```
Preconfigured PostScript Printer
Preconfigured PostScript Printer (reverse)
Preconfigured Printer
Preconfigured Printer (reverse)
```

4.6   List of Changes and Enhancements

Reference the *DII COE Software Version Description (SVD) for Kernel Printer Driver Segment Version 1.0.0.1 (Solaris 2.5.1)*, for a list of the software changes.

4.7   Important Considerations

Product Qualification: The Kernel Printer Driver segment was validated and accepted by the INRI Systems Engineering Group in accordance with the *DII COE Software Test Plan for Kernel Printer Driver Segment Version 1.0.0.0*.

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Product Dependencies: The Kernel Printer Driver segment requires the DII COE Version 3.2.0.0 Kernel or the DII COE Version 3.0.0.3 Kernel Patch 5 (Solaris 2.5.1) (or a subsequent roll-up patch incorporating DII COE Version 3.0.0.3 Kernel Patch 5 printer functionality). No implementation constraints or limitations on system configuration apply.

5. Notes

The following acronyms and abbreviations are used in this document.

COE   Common Operating Environment

DAT   Digital Audio Tape

DII   Defense Information Infrastructure

GOTS   Government off-the-shelf

IP   Installation Procedures

OSC   OSF Support Center

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